



Energy Transitions and Development Ambitions: Divergent Agendas?

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The notion of ‘development’ has been the preconception of many governments, particularly those in the Global South. It has often been tagged with the connotation of ‘catching up’; that is, some countries were lagging and ostensibly needed to do more to develop. Indeed, countless resources have been spent in the name of development, and although on many fronts progress has been recorded, the overall picture remains spotty. The development paradigm has been constructed upon and sustained by several assumptions, some of which are increasingly being challenged by the realities of the world in which we live and the fact that resources needed to attain this agenda are not limitless.

A critical flaw in the development paradigm has been the assumption that there would be limitless energy to fuel growth sought. This assumption is increasingly looking untenable considering the climate and biodiversity challenges that we are up against, and for which the direst predictions suggest that humanity and planetary life, in general, might be on the brink of a catastrophe. Towards the end of the last century, as these limits became increasingly self-evident, efforts shifted towards making development a more sustainable enterprise—that is that it should be able to meet human needs while restoring and maintaining the health of the Earth’s critical systems.

The centrality of energy to achieving development has been encapsulated within the United Nations Sustainable Development Goals. Goal number 7 of the 17 goals established seeks to ‘ensure access to affordable, reliable, sustainable and modern energy for all’. However, with our twentieth-century energy sources and systems proving so damaging, can we rapidly build and deploy energy systems that restore and respect our planetary support systems? Can we do so while continuing to improve the lives of the poor and offering a higher quality of life to people everywhere? What are the costs involved in this transition, and who

will bear them? Are our politics, economics, and societies equipped to deal with the energy transition challenge?

When we conceptualized this journal issue, we were seized by the idea that conversations around how to find satisfactory answers to these questions were not necessarily convergent and that many of the solutions that were being proposed were, on the surface, excellent, but on closer scrutiny, had not tackled the complex issues but were merely gloss on existing systems of domination and inequality. We hope that this journal issue will help shine a light on some of the neglected areas of engagement and spur a re-engagement and recommitment to address the issues needed to ensure that the mooted energy transitions would be equitable would help redress the gaps of the precedents. In part, we can report that this goal was met. However, there are many unique challenges for which deeper investigation is necessary, and the requisite political will and resources are marshaled. It is also increasingly evident that new partnerships will need to be established to broaden the reach and impact of current initiatives that are being deployed. But above all, there will need to be a compact that underpins all these efforts. In many respects, some might argue that such a compact already exists within the SDGs, particularly the SDG7 goal to ‘ensure access to affordable, reliable, sustainable and modern energy for all’. Still, and as we move closer to 2030, when it is anticipated that the SDGs should have been accomplished, it is increasingly evident that we will not achieve the goals, and in some instances, the gaps that the SDGs should be reducing are on the increase.

While in recent years there has been an admirable focus on how to ensure that sustainable energy for all could be delivered, driven in large part by the Sustainable Energy for All Agenda, it seems that there has been a much greater effort in shoring up the production side and less attention paid to ensuring the affordability of the energy produced. This undermines the aspect of ‘energy for all’ and brings the question of energy justice to the fore.

Energy justice has been defined as the goal of seeking equity in the social and economic participation in the energy system while at the same time addressing the economic,

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social, and health costs that are borne by those communities or groups that the energy system has traditionally harmed. Conceptually and practically, it seeks to make the energy system more inclusive and equitable, particularly for those communities or groups that have been marginalized hitherto. As such, the concerns of these groups should take center stage in the energy justice debate.

The quest for energy justice should not be written off as just another liberal entitlement being sought. Electrification rates remain below 5% in Chad and the Central African Republic and below 50% in Ethiopia, Mozambique, and Sudan. Real access to electricity in many parts of Africa remains at levels akin to the United States in the late nineteenth century (Smil 2022). According to current statistics, close to 40% of the world's population still do not have access to clean cooking fuels and technologies in their homes. The reliance on these traditional cooking technologies is responsible for nearly 4 million deaths per year.¹ In Africa, the number of people relying on intensely polluting fuels for their energy needs is increasing and is estimated to exceed 1 billion people by 2025 (Stoner 2021).

To meet the 2030 targets for clean cooking alone, the world needs to invest 41 billion dollars annually—a tall order by any measure, and one, given current trends, which is unlikely to be met. These statistics do not paint a lovely picture, whichever way one looks at them. As we write this editorial, energy prices are skyrocketing around the world. They are precipitating deep crises at the household level, even in countries in the Global North, where a significant number of families must make dramatic choices between eating and heating in the middle of winter. The UK is facing what has been described as a 'perfect storm of rising taxes, heating costs, and food inflation' (Taylor 2022). Heating costs alone are expected to increase by over 50%, which probably means that several families on the lower end of the wage scale are likely to suffer. In the EU, it has been estimated that up to 35 million people cannot afford to heat their homes this winter.

In Bulgaria, which has the highest proportion of people in this dilemma, 25% of the population cannot heat their homes (Lloyd 2022). In the United States, a similar situation obtains. In California alone, an estimated 800,000 households are typically disconnected annually for their inability to pay utility bills. Of these, 10–15% are never reconnected. In their article, Bednar and Reames noted that out of a total of 118.2 million US households, in 2015, the US Energy Information Administration (EIA) estimated that 17 million households received an energy disconnect/delivery stop

notice, and 25 million households had to forgo food and medicine to pay energy bills (Bednar and Reames 2020).

A simple drill down and look at the statistics reveals a grimmer picture of lingering energy poverty within our societies around the world, perhaps less visible than other 'lacks', but one which nonetheless has a significant impact on societal wellbeing. The health costs of energy poverty are vast—ranging from the respiratory ailments and distress that those inhaling smoke from cooking fires regularly suffer to strokes, cardiovascular diseases, arthritis, and rheumatism that those in poorly heated and ventilated buildings suffer, not to mention the psychological and mental burden that comes with juggling finances to pay mounting energy bills. These statistics lay bare the hollow promise of 'energy for all'. Yes, there is probably sufficient energy for all, but it has been either priced out of reach or poorly distributed.

As we explore how to achieve a just transition, we need to be aware of and acknowledge that there are already, in many ways, structurally determined pathways that will decide the winners and the losers emerging from the transition. Which groups in society are likely to benefit from cleaner energy sources, reduced emissions, and the new opportunities that are part and parcel of the transition? Who is going to bear the costs or burdens, as well as miss out on the opportunities? In many respects, it stands to reason that we are simply reproducing or carrying over the inequalities we live with.

The premise and promise of a sustainable energy future depend a lot on the choices made in the present. To cite an oft-used cliché, the window of opportunity is rapidly narrowing. The status quo will need to be upset and reconfigured anew to meet our goals. Even with the current efforts to which we have committed, many questions remain unanswered and for which there are no quick or easy answers. For starters, how realistic are the commitments, promises, and pledges made, and what impact will they have in addressing climate change and ensuring that all have access to sustainable and affordable energy?

Much more needs to be done to hold those responsible for making the most significant shifts in the transition accountable. We should be indignant when we hear that the major oil corporations are not taking concrete steps to live up to their pledges to transition to clean energy. Greenwashing is, therefore, very much alive and is likely to continue in the years ahead. The rhetoric of commitment to energy transition does not match the facts on the ground and actions taken. Take, for instance, the findings of this recent research report focusing on the activities of four major global oil companies:

We found a strong increase in discourse related to "climate", "low-carbon" and "transition", especially by BP and Shell. Similarly, we observed increasing tendencies toward strategies related to decarbonization and clean energy. But these are dominated by

¹ <https://www.who.int/news/item/02-05-2018-9-out-of-10-people-worldwide-breathe-polluted-air-but-more-countries-are-taking-action>



pledges rather than concrete actions. Moreover, the financial analysis reveals a continuing business model dependence on fossil fuels along with insignificant and opaque spending on clean energy. We thus conclude that the transition to clean energy business models is not occurring, since the magnitude of investments and actions does not match discourse. Until actions and investment behavior are brought into alignment with discourse, accusations of greenwashing appear well-founded. (Li et al. 2022)

Furthermore, the recent spike in energy prices has seen the price of oil spiral towards the \$100 per barrel mark. This is a further disincentive for the actors in this sector to make the steep investments necessary for the transition. Speaking at a recent event in the City of London, Lord Browne, former head of BP, is reported to have said that the incentive for oil and gas firms to divert capital away from renewables is ‘overwhelming’ as they shift capital away from renewables in pursuit of returns. Given the present incentives, ‘the natural environment does not stand a chance’ (Thomas 2022). Such a gloomy premonition from an industry insider is all we need to know that the transition industry needs a huge wake-up call and a more binding approach to the commitments already made.

But even if we were to conquer the cynicism that seems to have dominated the transition pledging to date, we are likely to encounter other more challenging obstacles to surmount. For instance, is it possible to build the necessary infrastructure to shift away from fossil fuels to renewable energy in a sustainable way? In an article published in *Nature Sustainability*, Timothy Laing invites us to consider the environmental implications of scaling up the production (or recycling) of materials needed to increase the adoption of solar PV and whether the supply of such materials can match the demand. To meet the net-zero by 2050 goal, we would need to dedicate at least 40% of the current production of aluminum to build solar power (Laing 2022).

To be clear, we cannot achieve what we are seeking with a mere reshuffling of the furniture in the room. The development paradigm that has created the crisis we must confront resides squarely within the current system of global monopolies and a political-economic system that has generated massive inequalities financial inequality and overseen deepening poverty in many parts of the world. The permanent search for profits at all costs has created a monster that undermines the very basis of our existence on this planet by destroying and modifying irreversibly large swathes of the natural environment. Today’s notion of ‘development’ is seen as reproducing westernization in many parts of the world. Our inability to have a different conversation about, contemplate, and work towards a different development vision remains a crucial problem.

The world is not without examples of successful energy transition pathways. Germany’s 60-year transition story provides lessons to guide present pressures to quickly phase-out coal and further transition to low carbon energy sources. One of these lessons is that a long-term transition is more expensive, and the challenges associated with transitions can be overcome if cooperation at all levels of engagement incorporates a polycentric approach (Oei et al. 2020). The German transition from nuclear and recently from coal to renewables could offer best-practice ideas on what a transition that is not based on promises but an urgent need and responsibility to transition looks like. Apart from Germany’s coal generation becoming less profitable due to high carbon price rates and increased renewable energy generation, a time had come for Germany as the EU’s largest economy to wean itself off also being its biggest polluter—accounting for about a third of the EU’s electricity-related emissions in 2019 (Carpion 2019). Perhaps this experience could offer other nations that are heavily dependent on coal such as ideas on how to combine energy, climate, social and structural policies while using policy instruments that guide a smooth transition while easing social impacts of the changes, especially the loss of jobs for millions of coal mine workers.

That said, there are still significant challenges that need to be faced and addressed that lie squarely in the political choices made. While it is fair that the world is today discussing how to tackle the climate crisis and making pledges, what is not acceptable is the paradox of the powerful countries of the West pushing for climate adjustment in the South and championing new ‘green’ conditionalities of development finance (including designing new instruments and facilities such as the IMF’s Resilience and Sustainability Trust) while continuing not to honor their existing financial commitments, and at the same time, continuing to invest heavily in extractive corridors to shore up their supplies of oil, gas, and coal.

As we write this editorial, the linkage between energy and conflict is becoming even more apparent, with the Russian invasion of Ukraine driving gas and petroleum prices even higher. While the eventual impact of this bellicose action on energy provision and costs (particularly in Europe) is still to be seen, we cannot avoid commenting on this and the potential it has to set back the negotiated goals regarding sustainable energy for all.

The articles in this journal present different facets of the challenge tackled from diverse perspectives and locations. In our view, they offer new insights and perspectives as to what is being done, by whom, and what still needs to be done. Much remains to be done, and the risk of not meeting the goals we have set is real. The possibility of failure should not petrify us or lead us to give up. Instead, it should be the impetus that we need to reopen the conversations about what needs to be done to ensure that the energy transition



commitment is not just another vacuous pledge, but one that engages all of us and harnesses our individual and collective energy to make it work. After all, the alternatives that are available to us are not pretty. We also need to situate the quest for a just energy transition within a vision of a change that privileges social and environmental responsibility and that focuses on the wellbeing of all and not just a few. None of this will come quickly, but ultimately, this is a political challenge and what remains is for our politics to rise to the occasion.

References

- Bednar, Dominic J., and Tony G. Reames. 2020. Recognition of and response to energy poverty in the United States. *Nature Energy* 5: 432–439. <https://doi.org/10.1038/s41560-020-0582-0>.
- Carpion, Karsten. 2019. Guest post: Why German coal power is falling fast in 2019. *CarbonBrief*. <https://www.carbonbrief.org/guest-post-why-german-coal-power-is-falling-fast-in-2019>. Accessed 25 February 2022.
- Laing, Timothy. 2022. Solar power challenges. *Nature Sustainability*. <https://www.nature.com/articles/s41893-021-00845-w>. Accessed 25 February 2022.
- Li, Mei, Gregory Trencher, and Jusen Asuka. 2022. The clean energy claims of BP, Chevron, ExxonMobil and Shell: A mismatch between discourse, actions and investments, *PLoS One* 16;17(2):e0263596. <https://journals.plos.org/plosone/article?id=https://doi.org/10.1371/journal.pone.0263596>. Accessed 25 February 2022.
- Lloyd, Naomi. 2022. Turning up the heat on Europe's fuel poverty crisis, *Euronews*. <https://www.euronews.com/my-europe/2022/01/26/turning-up-the-heat-on-europe-s-energy-poverty-crisis>. Accessed 25 February 2022.
- Oei, Pao-Yu, Hanna Brauers, and Philipp Herpich. 2020. Lessons from Germany's hard coal mining phase-out: policies and transition from 1950 to 2018. *Climate Policy* 20(8): 963–979. <https://www.tandfonline.com/doi/full/https://doi.org/10.1080/14693062.2019.1688636>. Accessed 25 February 2022.
- Stoner, Oliver. 2021. Africa is the key to ending harmful use of polluting fuels in the home, *The Conversation*, <https://theconversation.com/africa-is-the-key-to-ending-harmful-use-of-polluting-fuels-in-the-home-169657>. Accessed 25 February 2022.
- Taylor, Chloe. 2021. Brits brace for 'perfect storm' of tax rises, spiraling inflation and an energy crisis. CNBC. <https://www.cnn.com/2022/02/09/brits-brace-for-perfect-storm-of-tax-rises-spiraling-inflation-and-energy-crisis.html>. Accessed 25 February 2022.
- Thomas, Allister. 2022. Former BP boss Lord Browne fears 'natural environment does not stand a chance' as oil nears \$100. *Energy Voice*. <https://www.energyvoice.com/oilandgas/387936/bp-lord-browne-oil-100/>. Accessed 25 February 2022.
- Smil, Vaclav. 2022. Africa's Electricity-Access Problem Is Worse Than You Think. The grid's reach is limited, the supply even more so, *IEEE Spectrum*, <https://spectrum.ieee.org/electrification>. Accessed 25 February 2022.

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